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## (54) HIGH-STRENGTH POLYOLEFIN FIBER AND METHOD FOR PRODUCING THE SAME

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a method for producing a high-strength polyolefin fiber without using a mixture of a solvent and a polymer for gel spinning or solvent spinning, and further to provide a method for producing the high-strength polyolefin fiber, having excellent productivity without using a very limited range of a molecular weight, a polymer density and a production condition.

**SOLUTION:** This method for producing the high-strength polyethylene fiber comprises melt-spinning a polymer of a raw material olefinic polymer having 60,000-600,000 weight average molecular weight, and  $\leq 4.5$  ratio ( $M_w/M_n$ ) of the weight average molecular weight to the number average molecular weight, taking up the extruded yarn at a speed regulated so that the ratio of the spinning speed to the extrusion linear velocity will be  $\geq 100$  while cooling the yarn, and carrying out the first-step drawing at the temperature not higher than the crystal-dispersing temperature of the obtained fiber.

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